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PENTLAND'S TINAMOU IN ARGENTINA
(AVES: TINAMIDAE)

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Field work in Argentina in 1965 and 1966 by personnel of the Foreign Game Investigation Program, of the Bureau of Sport Fisheries and Wildlife, had as one of its results the accumulation of a collection of nearly 300 specimens of tinamou, which have been deposited in the U.S. National Museum. Among these was a series of 15 Pentland's Tinamou, *Nothoprocta pentlandii* (Gray), from the provinces of Mendoza, San Luis, and Cordoba, at or near the southern end of the range of the species (Hellmayr and Conover, 1942; Olrog, 1963). Comparison of these southern specimens with others from the more northerly provinces of Catamarca, Tucuman, and Salta and from Bolivia revealed that two distinct southern populations were represented—a previously undescribed one in Mendoza and one in the Sierras de San Luis and Cordoba. There are thus three subspecies in Argentina, as follows.

Nothoprocta pentlandii pentlandii (Gray)

Range: From the Bolivian departments of Chuquisaca, Santa Cruz, Cochabamba, and La Paz south along the Andean foothills of western Argentina to southern Catamarca.

Comments: Comparison of this subspecies with others is made below. This is the only subspecies currently listed as occurring in Argentina by Olrog (1963), who did not recognize the next form. The type locality is in the Bolivian Andes.

Nothoprocta pentlandii doeringi Cabanis

Range: Sierras de San Luis and Cordoba, central Argentina.

Diagnosis: Similar to the northerly nominate race in size (Table 1)

but grayer in the general tone of the dorsum, resulting from gray rather than brown feather edgings; more heavily spotted on the upper breast, and with a less extensive pale area centrally on the abdomen.

Comments: *Nothoprocta doeringi* was named by Cabanis (1878) on the basis of a specimen sent to him from Sierra Chica, near Cordoba. Sclater (1879) noted that this population was closely allied to *N. pentlandii*, and Sclater and Hudson (1889) considered the name *doeringi* synonymous with *pentlandii*. The name applied by Cabanis to the population of the Sierra Cordoba has seldom been used since that time. Examination of the series of four fully grown birds available to us from that mountain range reveals that that population is distinct from the nominate form, as indicated above. Further, five specimens from the Sierra de San Luis, in San Luis Province, are not separable from the Cordoba birds. The name bestowed by Cabanis is available and must apply to these populations, which are apparently isolated from other populations by lowlands containing unsuitable habitat.

One specimen of *N. p. pentlandii* from near La Merced, Catamarca, which of those examined is the nearest geographically to the Cordoba population, shows an approach to *N. p. doeringi* in the grayness of the dorsal coloration.

As far as we are aware, the occurrence of this species of tinamou in the Province of San Luis has not previously been reported.

***Nothoprocta pentlandii mendozae* new subspecies**

Holotype: USNM 530855; female, Quebrada de Canota, Mendoza Province, Argentina; collected 7 May, 1966, by Wayne H. Bohl, original number 100.

Diagnosis: Differs from *N. p. pentlandii* and *N. p. doeringi* by having a much longer bill (Table 1) and additionally from *pentlandii* by a slightly longer wing, on the average. The general tone of the dorsal coloration is gray, rather than brown, this appearance resulting from the color of the lateral edges of the back feathers. In this respect, *mendozae* is similar to *doeringi* but quite distinct from *pentlandii*. The breast is more heavily spotted than in *pentlandii* and the abdomen is darker than in either *pentlandii* or *doeringi*, being suffused with pale gray or grayish-brown rather than buff.

Range: Known definitely only from the northwestern corner of the Province of Mendoza, Argentina. Other reports of *N. pentlandii* from Mendoza (Sanzin, 1917; Reed, 1919) and from northern Neuquen (Olrog, 1963) probably also apply to birds of this subspecies.

Comments: Bill size is the most distinctive character of the subspecies *N. p. mendozae*. The bill averages approximately 15 per cent longer in members of this population than in either *pentlandii* or *doeringi* (Table 1), and there is no overlap in the samples available to us. Wing length is slightly greater in *mendozae* than in *pentlandii*, but

TABLE 1. Measurements (mm.) and weight (gm.) of subspecies of *Nothoprocta pentlandii* in Argentina.

		<i>pentlandii</i>	<i>doeringi</i>	<i>mendozae</i>
Wing	N	10	9	6
	Range	120.2-142.8	123.0-143.2	134.5-145.7
	Mean	133.6	135.4	139.3
Bill	N	9	9	5
	Range	21.0-24.0	21.0-25.1	26.3-27.6
	Mean	22.6	23.3	26.9
Tarsus plus Middle Toe	N	10	9	6
	Range	60.2-67.8	60.2-68.4	65.2-68.6
	Mean	65.0	65.1	66.9
Weight	N	2	10	14
	Range	255-305	211-330	301-384
	Mean	280.0	265.7	339.9

doeringi is intermediate in this regard. Similarly, the length of the tarsus and middle toe combined is greater, on the average, in *mendozae* than in the other subspecies. The general impression of greater size in *mendozae* is borne out by a consideration of weight. Fourteen specimens of *mendozae* averaged 340 gm., whereas ten *doeringi* averaged only 266 gm. In both instances, equal numbers of each sex were considered; not all birds weighed were saved as specimens. Two examples of *pentlandii*, both males, weighed 255 and 305 gm.

DISCUSSION

Pentland's Tinamou is a bird of moderate to high elevations; all specimens taken in the course of field work by FGIP personnel were at elevations of 3000 feet or above. Thus the low country in the extreme northwest portion of Cordoba and the extreme southeast part of Catamarca, containing the Salinas Grandes, would be an effective barrier providing for the isolation of *N. p. doeringi* from *N. p. pentlandii*. Similarly low-lying country to the west of the Sierra de San Luis, either to the east or west of the Alto Pencosco, separates *doeringi* from *mendozae*. The Rio Bermejo and its tributaries in northern San Juan Province represent a possible barrier between *mendozae* and *pentlandii*; the country is considerably more arid to the south and west of the rios Troya, Bermejo, and Desaguadero than to the north and east.

Olog (1963) has divided Argentina into a number of ornithological zones. The distribution of the subspecies of Pentland's Tinamou outlined in the previous paragraph fits well the zonation mapped by Olog.

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Nothoprocta p. pentlandii is distributed roughly in the "Subzona Subtropical Occidental" (p. 14), *N. p. doeringi* in the "Subzona Chaqueña Occidental" and *N. p. mendozæ* in the "Subzona Chacoandina" (p. 26).

The three subspecies discussed above were also compared with a population from well north of the range of *N. p. pentlandii*, called *N. p. oustaleti* Berlepsch and Stolzmann by Hellmayr and Conover (1942). The sample of this form examined averages considerably larger than any of the southern races of *N. pentlandii* in length of wing and of tarsus and middle toe. Differences in color and in feather pattern are so great that it is difficult to consider *oustaleti* conspecific with the forms of *pentlandii* seen. Indeed, *oustaleti* was considered to be a distinct species by Peters (1931).

Special comment should be made on the methods of measurement used in this study. The scutellation of the tarsus and middle toe is extremely variable in the vicinity of the juncture of these two elements. This variability made it difficult, if not impossible, to obtain measurements of either segment that would be comparable from one individual to another. However, a single scute could be used as the boundary point between tarsus and toe on a single specimen, and adding the measurements for these two segments yields a figure more nearly comparable between populations than either measurement alone. The bill chord was measured from the tip to the point of the "V" formed by the cere. Sexual dimorphism in size is slight (a maximum of 3 per cent) with a population, and measurements for both sexes are combined because of the small number of specimens available.

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Specimens Examined

N. p. pentlandii. (9)—Bolivia: Cochabamba: Vacas, 2752 and 3800 m. (3); Arani, 2752 m. (1); Pocona, 2700 m. (1). Argentina: Salta: 25 mi. W Salta, 5500 ft., (1); Tucuman: San Pedro de Colalao (2); Catamarca: near La Merced, 4000 ft. (1).

N. p. doeringi. (10)—Argentina: Córdoba: La Falda, 3000–3200 ft., (3); La Cumbre (1 plus 6 chicks); San Luis: vic. El Volcan, 3000–3400 ft. (4); 7 mi. SW San Francisco, between 2400 and 2800 ft. (1).

N. p. mendozæ. (6)—Argentina: Mendoza: Quebrada de Canota, 4800–6200 ft. (5); 2 mi. SW Puesto Hoyada, 4500 ft. (1).

N. p. ? oustaleti. (6)—Peru: Lima: San Mateo (2); Huinco (1); Apurimac: Andahuaylas Hda., La Laguna, 3040 m. (1); Ecuador: Loja: Malacatos, 5000 ft. (2).

Bolivian specimens of *pentlandii* and all *oustaleti* were borrowed from the Chicago Museum of Natural History through the courtesy of Emmet R. Blake. All other specimens are in the U. S. National Museum.

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